

IN THE CLAIMS

Please amend claims 25-30, and add new claims 31-33, as follows:

1 - 24. (Cancelled)

25. (Currently Amended) An information processing apparatus for transmitting data to a printer, wherein the data is divided in a band unit in each of a plurality of colors, including first to fourth colors, in registration with a position of an image forming section for each color, in which when an N-th page is printed, areas on the N-th page overlapping an (N-1)th page, an (N+1)th page, and overlapping no page, are defined as Na, Nc and Nb, respectively, said information processing apparatus comprising:

a conversion unit configured to convert document data into image data;

a division unit configured to divide the image data converted by said conversion unit in a band unit;

a compression unit configured to compress the image data divided by said division unit;

a calculation unit configured to calculate a size of the image data compressed by said compression unit;

a first discrimination unit configured to discriminate, based on the size of the compressed image data calculated by said calculation unit, whether data of the N-th page and the (N+1)th page can be stored in a memory if these data are mixed and transmitted in a printing order;

a second discrimination unit configured to discriminate whether data in the area Na has

been transmitted to the printer; and

a transmission unit configured to transmit data to the printer,

wherein said transmission unit transmits data of the first to the fourth colors in the areas area Nb and data of the third and the fourth colors in the area Nc on the N-th page and data in the area (N+1)a on the (N+1)th page to the printer, if said first discrimination unit discriminates that the data of the N-th page and the (N+1)th page can be stored in the memory and if said second discrimination unit discriminates that the data in the area Na has been transmitted to the printer,

wherein said transmission unit transmits data of the first and the second colors in the areas area Na, data of the first to the fourth colors in the area Nb and Nc on the N-th page and data in the area (N+1)a on the (N+1)th page to the printer, if said first discrimination unit discriminates that the data of the N-th page and the (N+1)th page can be stored in the memory and if said second discrimination unit discriminates that the data in the area Na has not been transmitted to the printer,

wherein said transmission unit transmits data of the first to the fourth colors in the areas area Nb and data of the third and the fourth colors in the area Nc on the N-th page to the printer, if said first discrimination unit discriminates that the data of the N-th page and the (N+1)th page cannot be stored in the memory and if said second discrimination unit discriminates that the data in the area Na has been transmitted to the printer, and

wherein said transmission unit transmits data of the first and the second colors in the areas area Na, data of the first to the fourth colors in the area Nb and data of the third and the fourth colors in the area Nc on the N-th page to the printer, if said first discrimination unit

discriminates that the data of the N-th page and the (N+1)th page cannot be stored in the memory and if said second discrimination unit discriminates that the data in the area Na has not been transmitted to the printer.

26. (Currently Amended) An information processing apparatus for transmitting data to a printer, wherein the data is divided in a band unit in each of a plurality of colors, including first to fourth colors, in registration with a position of an image forming section for each color, said information processing apparatus comprising:

a conversion unit configured to convert document data into image data;

a division unit configured to divide the image data converted by said conversion unit in a band unit;

a compression unit configured to compress the image data divided by said division unit;

a calculation unit configured to calculate a size of the image data compressed by said compression unit;

a discrimination unit configured to discriminate, based on the size of the compressed image data calculated by said calculation unit, whether data of an N-th page and an (N+1)th page can be stored in a memory if these data are mixed and transmitted in a printing order; and

a transmission unit configured to transmit data to the printer,

wherein said transmission unit transmits data of the first color of the (N+1)th page to the printer after completion of transmission of data of the fourth color of the N-th page, if said discrimination unit discriminates that the data of the N-th page and the (N+1)th page cannot be

stored in the memory, and

wherein said transmission unit transmits data of the first color of the (N+1)th page to the printer before completion of transmission of data of the fourth color of the N-th page, if said discrimination unit discriminates that the data of the N-th page and the (N+1)th page can be stored in the memory.

27. (Currently Amended) An information processing method for use in transmitting data to a printer, wherein the data is divided in a band unit in each of a plurality of colors, including first to fourth colors, in registration with a position of an image forming section for each color, in which when an N-th page is printed, areas on the N-th page overlapping an (N-1)th page, an (N+1)th page, and overlapping no page, are defined as Na, Nc and Nb, respectively, said information processing method comprising:

a conversion step for converting document data into image data;

a division step for dividing the image data converted by said conversion unit in a band step;

a compression step for compressing the image data divided by said division step;

a calculation step for calculating a size of the image data compressed by said compression step;

a first discrimination step of discriminating whether data of the N-th page and the (N+1)th page can be stored in a memory if these data are mixed and transmitted in a printing order;

a second discrimination step of discriminating whether data in the area Na has been transmitted to the printer; and

a transmission step of transmitting data to the printer,

wherein said transmission step transmits data of the first to the fourth colors in the areas area Nb and data of the third and the fourth colors in the area Nc on the N-th page and data in the area (N+1)a on the (N+1)th page to the printer, if said first discrimination step discriminates that the data of the N-th page and the (N+1)th page can be stored in the memory and if said second discrimination step discriminates that the data in the area Na has been transmitted to the printer,

wherein said transmission step transmits data of the first and the second colors in the areas area Na, data of the first to the fourth colors in the area Nb and data of the third and the fourth colors in the area Nc on the N-th page and data in the area (N+1)a on the (N+1)th page to the printer, if said first discrimination step discriminates that the data of the N-th page and the (N+1)th page can be stored in the memory and if said second discrimination step discriminates that the data in the area Na has not been transmitted to the printer,

wherein said transmission step transmits data of the first to the fourth colors in the areas area Nb and data of the third and the fourth colors in the area Nc on the N-th page to the printer, if said first discrimination step discriminates that the data of the N-th page and the (N+1)th page cannot be stored in the memory and if said second discrimination step discriminates that the data in the area Na has been transmitted to the printer, and

wherein said transmission step transmits data of the first and the second colors in the areas area Na, data of the first to the fourth colors in the area Nb and data of the third and the

fourth colors in the area N_c on the N -th page to the printer, if said first discrimination step discriminates that the data of the N -th page and the $(N+1)$ th page cannot be stored in the memory and if said second discrimination step discriminates that the data in the area N_a has not been transmitted to the printer.

28. (Currently Amended) An information processing method for use in transmitting data to a printer, wherein the data is divided in a band unit in each of a plurality of colors, including first to fourth colors, in registration with a position of an image forming section for each color, said information processing apparatus comprising:

a conversion step configured to convert document data into image data;

a division step configured to divide the image data converted by said conversion unit in a band unit;

a compression step configured to compress the image data divided by said division unit;

a calculation step configured to calculate a size of the image data compressed by said compression unit;

a discrimination step of discriminating, based on the size of the compressed image data calculated by said calculation step, whether data of an N -th page and an $(N+1)$ th page can be stored in a memory if these data are mixed and transmitted in a printing order; and

a transmission step of transmitting data to the printer,

wherein said transmission step transmits data of the first color of the $(N+1)$ th page to the printer after completion of transmission of data of the fourth color of the N -th page, if said

discrimination step discriminates that the data of the N-th page and the (N+1)th page cannot be stored in the memory, and

wherein said transmission step transmits data of the first color of the (N+1)th page to the printer before completion of transmission of data of the fourth color of the N-th page, if said discrimination step discriminates that the data of the N-th page and the (N+1)th page can be stored in the memory.

29. (Currently Amended) A computer-readable storage medium storing an information processing program for controlling a computer to transmit data to a printer, wherein the data is divided in a band unit in each of a plurality of colors, including first to fourth colors, in registration with a position of an image forming section for each color, in which when an N-th page is printed, areas on the N-th page overlapping an (N-1)th page, an (N+1)th page, and overlapping no page, are defined as Na, Ne and Nb, respectively, said information processing program comprising:

a conversion step for converting document data into image data;

a division step for dividing the image data converted by said conversion step in a band unit;

a compression step for compressing the image data divided by said division step;

a calculation step for calculating a size of the image data compressed by said compression step;

a first discrimination step of discriminating whether data of the N-th page and the

(N+1)th page can be stored in a memory;

a second discrimination step of discriminating whether data in the area Na has been transmitted to the printer; and

a transmission step of transmitting data to printer,

wherein said transmission step transmits data of the first to the fourth colors in the areas area Nb and data of the third and the fourth colors in the area Nc on the N-th page and data in the area (N+1)a on the (N+1)th page to the printer, if said first discrimination step discriminates that the data of the N-th page and the (N+1)th page can be stored in the memory and if said second discrimination step discriminates that the data in the area Na has been transmitted to the printer,

wherein said transmission step transmits data of the first and the second colors in the areas area Na, data of the first to the fourth colors in the area Nb and data of the third and the fourth colors in the area Nc on the N-th page and data in the area (N+1)a on the (N+1)th page to the printer, if said first discrimination step discriminates that the data of the N-th page and the (N+1)th page can be stored in the memory and if said second discrimination step discriminates that the data in the area Na has not been transmitted to the printer,

wherein said transmission step transmits data of the first to the fourth colors in the areas area Nb and data of the third and the fourth colors in the area Nc on the N-th page to the printer, if said first discrimination step discriminates that the data of the N-th page and the (N+1)th page cannot be stored in the memory and if said second discrimination step discriminates that the data in the area Na has been transmitted to the printer, and

wherein said transmission step transmits data of the first and the second colors in the

areas area Na, data of the first to the fourth colors in the area Nb and data of the third and the fourth colors in the area Nc on the N-th page to the printer, if said first discrimination step discriminates that the data of the N-th page and the (N+1)th page cannot be stored in the memory and if said second discrimination step discriminates that the data in the area Na has not been transmitted to the printer.

30. (Currently Amended) A computer-readable storage medium storing an information processing program for controlling a computer to transmit data to a printer, wherein the data is divided in a band unit in each of a plurality of colors, including first to fourth colors, in registration with a position of an image forming section for each color, said information processing program comprising:

- a conversion step for converting document data into image data;

- a division step for dividing the image data converted by said conversion step in a band unit;

- a compression step for compressing the image data divided by said division step;

- a calculation step for calculating a size of the image data compressed by said compression step;

- a discrimination step of discriminating whether data of an N-th page and an (N+1)th page can be stored in a memory; and

- a transmission step of transmitting data to the printer,

wherein said transmission step transmits data of the first color of the (N+1)th page to the

printer after completion of transmission of data of the fourth color of the N-th page, if said discrimination step discriminates that the data of the N-th page and the (N+1)th page cannot be stored in the memory, and

wherein said transmission step transmits data of the first color of the (N+1)th page to the printer before completion of transmission of data of the fourth color of the N-th page, if said discrimination step discriminates that the data of the N-th page and the (N+1)th page can be stored in the memory.

31. (New) An information processing apparatus for transmitting data to an image forming apparatus which forms an image in a sequential order of first to fourth colors, said information processing apparatus comprising:

a discrimination unit configured to discriminate whether data of an N-th page and an (N+1)th page can be stored in a memory if these data are mixed and transmitted in a printing order; and

a transmission unit configured to transmit data to the image forming apparatus,

wherein said transmission unit transmits data of the first color of the (N+1)th page to the image forming apparatus after completion of transmission of data of the fourth color of the N-th page, if said discrimination unit discriminates that the data of the N-th page and the (N+1)th page cannot be stored in the memory, and

wherein said transmission unit transmits data of the first color of the (N+1)th page to the image forming apparatus before completion of transmission of data of the fourth color of the

N-th page, if said discrimination unit discriminates that the data of the N-th page and the (N+1)th page can be stored in the memory.

32. (New) An information processing method for use in transmitting data to an image forming apparatus which forms an image in a sequential order of first to fourth colors, said information processing method comprising:

a discrimination step for discriminating whether data of an N-th page and an (N+1)th page can be stored in a memory if these data are mixed and transmitted in a printing order; and

a transmission step for transmitting data to the image forming apparatus,

wherein said transmission step transmits data of the first color of the (N+1)th page to the image forming apparatus after completion of transmission of data of the fourth color of the N-th page, if said discrimination step discriminates that the data of the N-th page and the (N+1)th page cannot be stored in the memory, and

wherein said transmission step transmits data of the first color of the (N+1)th page to the image forming apparatus before completion of transmission of data of the fourth color of the N-th page, if said discrimination step discriminates that the data of the N-th page and the (N+1)th page can be stored in the memory.

33. (New) A computer-readable storage medium for storing an information processing program for transmitting data to an image forming apparatus which forms an image in a sequential order of first to fourth colors, said information processing program comprising:

a discrimination step for discriminating whether data of an N-th page and an (N+1)th page can be stored in a memory if these data are mixed and transmitted in a printing order; and

a transmission step for transmitting data to the image forming apparatus,

wherein said transmission step transmits data of the first color of the (N+1)th page to the image forming apparatus after completion of transmission of data of the fourth color of the N-th page, if said discrimination step discriminates that the data of the N-th page and the (N+1)th page cannot be stored in the memory, and

wherein said transmission step transmits data of the first color of the (N+1)th page to the image forming apparatus before completion of transmission of data of the fourth color of the N-th page, if said discrimination step discriminates that the data of the N-th page and the (N+1)th page can be stored in the memory.